

REMARKS/ARGUMENTS

The Examiner is thanked for the Official Action dated April 19, 2005. This amendment and request for reconsideration is intended to be fully responsive thereto.

Claims 1-3, 7 and 12 were rejected under 35 U.S.C. 103(a) as being unpatentable over Beatenbough et al. (US 4,997,035) in view of Haussmann (US 6,328,100). Applicant respectfully disagrees.

Regarding claim 1: The Examiner alleges that Beatenbough discloses the invention as claimed with the exception of using a brazing method to assemble the first and second parts of the manifold. The Examiner then cites the heat exchanger of Haussmann that teaches the use of brazing to assemble the first and second parts of the header of the heat exchanger. The Examiner then alleges that it would have been obvious to one of ordinary skill in the art to modify the heat exchanger manifold of Beatenbough by using a brazing method to assemble the first and second parts of the manifold as taught by Haussmann in order to improve the heat transfer process.

First, Beatenbough fails to disclose not only the use a brazing method to assemble the first and second parts of the manifold, but also the first part of the manifold having only one bottom and two lateral walls facing each other. By contrast to the manifold of the present invention, the first part 30 of the manifold of Beatenbough has four lateral walls, not two lateral walls, as recited in claim 1.

Second, Beatenbough fails to disclose the second part having a continuous edge complementary to a continuous edge of the first part. By contrast to the manifold of the present invention, the continuous edge of the first part 30 of the manifold of Beatenbough (in the form of the gasket engagement surface 31) is not complementary to the continuous edge of the second part 10 thereof defined at the distal end of the retaining wall 14 and the attachment ends 15 thereof. As clearly illustrated in Fig. 3 of Beatenbough, the continuous edge 31 of the first part 30 of Beatenbough is complementary to the attachment slot 16 of the inlet header sheet (the second part) 10, while the continuous edge of the retaining wall 14 and the attachment ends 15 of the second part 10 is spaced from the continuous edge 31 of the first part 30, as the attachment ends 15 of the retaining wall 14 are crimped over the attachment foot 32 of inlet header tank 30 to compressingly engage and retain the inlet header tank 30 to the inlet header sheet 10, forming the assembly.

Therefore, even if the combination of and modification of Beatenbough and Haussmann suggested by the Examiner could be made, the resulting manifold for the heat exchanger still would lack the first part having only one bottom and two lateral walls and the second part having a continuous edge complementary to a continuous edge of the first part.

Moreover, the first part 30 of the manifold of Beatenbough is made of a polymeric plastic material (see col. 3, line 40). One of ordinary skill in the art would appreciate that the plastic first part cannot be assembled to the metal second part by brazing. Therefore, the combination of and modification of Beatenbough and Haussmann suggested by the Examiner could not be made.

Furthermore, the motivation to improve the heat transfer process suggested by the Examiner is not convincing. One of ordinary skill in the art would appreciate that in the heat exchangers of Beatenbough and Hausmann, the heat transfer occurs in the heat exchanger core between the coolant and air when the air flows through the core. More specifically, the coolant heats the tubes and fins of the heat exchanger core, which then transfer heat to the incoming air flow. The heat transfer through the header of the heat exchanger is negligible. Therefore, modifying the heat exchanger manifold of Beatenbough by using a brazing method to assemble the first and second parts of the manifold as taught by Hausmann will not improve the heat transfer process. In other words, the prior art fails to provide adequate suggestion or motivation to combine the references as cited by the Examiner.

Thus, the rejection of claim 1 under 35 U.S.C. 103(a) is improper.

Regarding claim 3: In addition to the arguments presented above regarding the patentability of claim 1, the prior art references cited by the Examiner fail to disclose the continuous edge of the first part that includes a peripheral groove for accommodating the continuous edge of the second part. Although Beatenbough discloses the attachment slot 16, the slot 16 is formed in the inlet header sheet 10, which is the second part. The first part of manifold of Beatenbough is the header tank 30 as provided with the pipe aperture. Thus, the rejection of claim 3 under 35 U.S.C. 103(a) is improper.


Claims 2, 7 and 12 depend upon the base claim 1 and introduce additional limitations further defining the present invention over the prior art.

Appl. No. 10/691,531
In re Avequin et al.
Reply to Final Office Action of Oct. 5, 2005

The Examiner further noted that claims 8 and 9 were objected to as being dependent upon the rejected base claim 1, but would be allowable if rewritten in independent form including all the limitation of the base claim and any intervening claims. As it was argued above, claim 1 defines the invention over the prior art. Therefore, claims 8 and 9 introducing additional limitations further define the present invention over the prior art and are in condition for allowance. Furthermore, new claims 14 and 15 have been added representing claims 8 and 9 rewritten in independent form including all the limitation of the base claim and any intervening claims. No new matter has been added.

It is respectfully submitted that claims 1-3, 7, 8, 9, 12, 14 and 15 define the invention over the prior art of record and are in condition for allowance, and notice to that effect is earnestly solicited. Should the Examiner believe further discussion regarding the above claim language would expedite prosecution they are invited to contact the undersigned at the number listed below.

Respectfully submitted:

By: 
Matthew W. Stavish
Reg. No. 36,286

Berenato, White & Stavish
Suite 240
6550 Rock Spring Drive
Bethesda, Maryland 20817
(301) 896-0600